

FINAL REPORT

Organization of ESOMM-2014 Conference

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LONG-TERM GOALS

Connect key players of marine mammal science community with associated regulators and other stakeholders.

OBJECTIVES

This should provide for the exchange of information so that regulators are informed about new science and scientists are informed about management requirements.

APPROACH

Organize the fifth ESOMM international meeting, 7-12 September 2014 in Amsterdam.
Announcements by December 2013, invitations by March/April 2014, and abstracts due by May 2014.

WORK COMPLETED

A wide group of key players has been approached, programme has been composed and the meeting was organized 7-12 September 2014 in Amsterdam. The meeting included the participation of oil and gas industry, and involved several stakeholders, including NGO participation. Also, for the first time, a special ESOMM issue was announced in Aquatic Mammals Journal, so that participants (and others) could submit peer-reviewed papers.

RESULTS

The international meeting was participated by over 150 persons of 14 different nationalities, representing all relevant stakeholders: scientists, government regulators, navies, industry, and nongovernmental organizations (NGOs). The plenary programme consisted of in total 54 oral presentations, 18 posters, and one Skype conversation. There were multiple discussion rounds for different topics, apart from the many occasions to have informal discussions. The meeting was formally opened by Rear-Admiral Rob Bauer of the Royal Netherlands Navy (director for NL-MOD

future plans and investments), emphasizing the need for a better understanding to responsibly use military sonar systems. The scientific kick-off was performed by Professor Walter Munk with a breath-taking opening talk in which he looked back at the historical development of long-range acoustic systems for worldwide climate monitoring. This was the first project (in particular, the Heard Island feasibility test in 1991) that seriously encountered an environmental concern for using acoustics in the ocean. It is an interesting fact that the initial discussion was triggered by a climate study rather than a military or industrial activity. Here, there is a conflict in both understanding and conserving the underwater environment, and Professor Munk was calling on the ambition to achieve both.

An essential characteristic of the ESOMM meetings is that all stakeholders have the opportunity to present their perspectives of the story. This provides a unique atmosphere of what has been achieved by science projects as well as what is needed for managing and regulating the problem. The meeting showed the mix of topics presented: fundamental and more applied research, research on different sound sources, management, and mitigation. Scientific highlights from the meeting included presentations of new research on behavioral responses, dose response functions, population-level effects, and hearing ability of baleen whales. Furthermore, recent developments at the management level also were presented and discussed such as the United States' noise strategy and the implementation of noise as indicator in the European Union's Marine Strategy Framework Directive.

The ESOMM special issue of *Aquatic Mammals Journal* will be issued 1 December 2015 and contains ten science papers, including the Historic Essay of Walter Munk.

IMPACT/APPLICATIONS

The meeting provided fruitful interaction between scientists, regulators and related stakeholders.

RELATED PROJECTS

The ESOMM-2014 international meeting provided input from many relevant projects on Marine mammal research. Some examples are: SOCAL-BRS, 3S-BRS, AUTECH-BRS, MOCHA, PCAD, IOGP-JIP, CET-Map, CET-Sound, etc.

PUBLICATIONS

Lam, FPA and PH Kvadsheim (2015) Effects of Sound in the Ocean on Marine Mammals; ESOMM-2014 International Meeting, *Aquatic Mammals* 2015, 41(4), 355-356, DOI 10.1578/AM.41.4.2015.355 [in press, guest editorial of Special Issue]

Lam, FPA, ML Siemensma, RPA Dekeling (2014) Effects of Sound in the Ocean on Marine Mammals; ESOMM-2014 International Meeting, *Abstract Book* [made available in pdf and in print for participants]

Lam, FPA, ML Siemensma, RPA Dekeling (2014) Effects of Sound in the Ocean on Marine Mammals; ESOMM-2014 International Meeting, *Presentations* [DVD distributed to participants]